



RayBiotech, Inc.

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Certificate of Analysis and Data Sheet

Rabbit anti-Smooth Muscle Actin(SMA) antibody

Catalog No.
130-10038

Isotype:
Rabbit Ig G

Species:
Human

Accession No:
P63236

Description

Actin is a globular, roughly 42-kDa protein found in all eukaryotic cells (the only known exception being nematode sperm). It is also one of the most highly-conserved proteins, differing by no more than 20% in species as diverse as algae and humans. Actin is the monomeric subunit of two types of filaments in cells: microfilaments, one of the three major components of the cytoskeleton, and thin filaments, part of the contractile apparatus in muscle cells. Actins are highly conserved proteins that are involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells.

Smooth muscle alpha actin is of further interest because it is one of a few genes whose expression is relatively restricted to vascular smooth muscle cells. Further more, expression of smooth muscle alpha actin is regulated by hormones, cell proliferation, and altered by pathological conditions including oncogenic transformation and atherosclerosis.

Applications

Table Summary of antibody applications and working conditions

Options / Functions	YES	NO	Not determined	Recommended Work dilution or concentration
ELISA	*			1:80000 (at least detecting 12.5 ng/ml)
Western Blotting			*	
Enzyme Immunoassay(EIA)			*	
Immunohistology - paraffin			*	
Immunohistology - resin			*	
Immunoprecipitation			*	
Flow Cytometry			*	
Neutralization			*	

Note: Other applications are not tested yet. Optimal dilutions should be determined by each laboratory for each application.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Preparation

Immunogen was synthetic peptide derived from human Smooth Muscle Actin. This antibody was produced from a rabbit immunized with the immunogen. The IgG fraction was purified from rabbit serum by ammonium sulphate precipitation, and followed by Protein A/G affinity chromatography.

Binding Activity

The antibody can specifically bind to its immunogen, and did not show any cross reactivity with unrelated antigens in ELISA. The specificity for binding to recombinant protein, cellular protein and native antigen is not defined. Cross reactivity with mouse and rat Smooth Muscle was not tested yet.

Reconstitution

Supplied as lyophilized and purified antibody originally containing PBS, without **Preservative Stabilizers**, liking Sodium Azide. ***It final concentration is indicated in shipping vial.***

The antibody is stable for at least years from the data of receipt when stored at -20°C to -70°C . Reconstituted antibody (suggesting with sterile PBS) can also be aliquotted and stored frozen at -20°C to -70°C in a manual defrost freezer for months without detectable loss activity. Upon reconstitution, the antibody can also be stored over months at 4°C . **Please avoid freeze-thaw cycles.**

Storage

Keep it at 4°C if intended for use within a month. Store at -20°C if over months. **Minimize freezing and thawing when use.**

Related products

1. Mouse Anti-Smooth Muscle Actin (cat# MD-14-0004)
2. Mouse Anti-Smooth Muscle Actin (cat# MD-14-0003)
3. Goat Anti-Actin (Smooth Muscle), (cat# ER-14-0084)

Reference

Sjöblom B, et al.. Alpha-actin in structure and regulation. Cell Mol Life Sci. 2008 Sep;65(17):2688-701.

Milewicz D.M., ET.AL., **De novo ACTA2 mutation causes a novel syndrome of multisystemic smooth muscle dysfunction.** Am. J. Med. Genet. A 152:2437-2443(2010) [PubMed: 20734336]

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